

Sound Waves

Working in partnership to protect Puget Sound

Vol. 20, No. 2

Removing creosote logs creates cleaner beaches



Photo by Tom Kantz

Manson Construction Company volunteered labor and equipment to remove old pilings from Puget Creek beach on Tacoma's Commencement Bay.

Throughout Puget Sound, creosote-soaked logs lay scattered on beaches or stand as abandoned upright pilings along the shoreline, oozing toxic chemicals into the sand and water. For decades, creosote—a pesticide—was the main ingredient of wood preservatives in aquatic environments.

Scientists have only recently begun to

understand the hazardous effects of creosote on humans and wildlife.

Even though the state restricted the use of creosote in 1995, toxic compounds from older logs still threaten the health of children playing in tide pools and the forage fish laying eggs along the shore. Forage fish such as sand lance, surf smelt, and herring make up an important part of a salmon's diet, and are critical to recovering salmon

populations. Larger organisms eat smaller organisms and pass cancer-causing compounds from creosote throughout the Sound's food web.

Partnerships restore the nearshore

For many resource agencies, removing these logs is a high priority. The goal is to create cleaner, safer beaches for people to enjoy, as well as to restore forage fish spawning areas on many beaches.

"Creosote is a harmful substance, but its removal is very doable," said Ginny Broadhurst, marine program coordinator with the Northwest Straits Commission. "In water quality efforts, these projects offer a big bang for the buck."

In counties throughout the Sound, state and local agencies, tribes, businesses and citizen groups are working together to remove hundreds of tons of creosote-soaked logs and abandoned pilings from the marine environment. As these partnerships expand these cleanup efforts around Puget Sound, they are making a difference one beach at a time.

• Contact **Lisa Kaufman** with Washington Department of Natural Resources at (360) 854-2808 or lisa.kaufman@wadnr.gov.


ACCOMPLISHMENTS AND PLANS TO DATE: 	Location	Status	Project leads
	Whatcom County	100 tons of logs removed, piling inventory completed	Whatcom Marine Resources Committee (MRC), City of Bellingham, Department of Ecology
	Skagit County	70 tons removed, inventory completed for all beaches	Skagit MRC and Department of Natural Resources (DNR)
	Island County	38 tons of logs removed, 70 more tons scheduled	Island MRC, DNR, Washington State Parks
	Pierce County	51 tons of pilings removed from Puget Creek beach, additional pilings removed from Titlow Beach	Pierce County Special Projects, Puget Creek Restoration Society, DNR, Manson Construction, WDFW
	Jefferson County	Pilings scheduled for removal in Jimmycomelately Creek	Jamestown S'Klallam Tribe
	Snohomish and San Juan counties	Inventory and removal plans underway	Snohomish and Island MRCs and DNR

Photo by Ginny Broadhurst

A BEACH RETURNS | Bulkhead removal at Seahurst Park helps restore natural shoreline habitat

BEFORE



Earlier this year, the U.S. Army Corps of Engineers, working with the city of Burien, the Salmon Recovery Funding Board and other partners, removed 1,200 feet of seawall and added gravel and sand in Seahurst Park. Their goal was to restore the natural shoreline.

Disconnecting the natural beach

Most of Puget Sound's beaches depend on natural bluff erosion to supply sand and gravel to beaches. These beaches are habitat for many species of fish, including forage fish that provide food for salmon, juvenile salmon and other species. At Seahurst Park, bulkheads built in 1970 on much of the park's shoreline cut off the supply of bluff material to this important beach habitat.

Bulkheads at the park

were made of rock-filled wire baskets and concrete seawalls to expand upland park and trail areas. Over time, the wire baskets failed, and rock riprap was added to shore up the bulkhead. In addition, when landslides in nearby forested bluffs carried sand,

gravel, logs and vegetation onto the beach, crews trucked this material away.

In the past 30 years, the waves reflecting off the bulkhead combined with the removal of eroded bluff material lowered the beach by 3 to 4 feet.

Reconnecting natural processes

To bring the park's shoreline back to a more natural condition, contractors first removed the wire baskets and rock riprap from the beach. Then, they brought in a base gravel layer and a sand and gravel surface layer to raise the beach to pre-bulkhead elevations. Finally, crews brought in salvaged logs and placed them on the beach.

The city and its partners will plant beach and shoreline vegetation next fall and winter. Scientists took extensive measurements prior to the project and will continue to monitor the project to evaluate how well it works.

Joan McGilton, deputy mayor of Burien and a member of the Puget Sound Action Team partnership, said the project serves as a model for restoring beaches.

"The public, as well as nearshore scientists, will be able to observe the physical changes to the beach," McGilton said. "And the scientific data will be vital to developing future nearshore projects that restore natural beaches."

• **Contact:** **Larry Fetter**, director, Burien Department of Parks, Recreation and Cultural Activities at LarryF@ci.burien.wa.us or (206) 988-3703.

AFTER



Photos courtesy of Anchor Environmental
Seahurst Park beach before and after the project shows a dramatic change.

2005 legislative session a big win for Puget Sound's environment

Whales, fish, birds and other marine creatures were winners in the 2005 legislative session, which ended April 24. The session produced key environmental bills that will benefit Puget Sound and significant increases in funding for Puget Sound.

Funding to carry out the *2005-2007 Puget Sound Conservation and Recovery Plan* totals more than \$31 million, a 10-percent increase from the current two-year budget period. An additional \$20 million will help recovery efforts in Hood Canal.

Specific results that this package of funding will buy include improved programs at the local level to manage onsite septic systems and stormwater,

clean up contaminated sediments, control the release of key toxic compounds, protect and restore habitat, and carry out recovery plans for salmon and other critical species.

Some of the most important policy bills for the Puget Sound environment:

- Establish the orca as the official state marine mammal (HB 1759).
- Establish the Oil Spill Oversight Council to improve the state's vigilance in preventing oil spills, and in responding when spills happen (ESSB 5432).
- Designate Hood Canal as an aquatic rehabilitation zone (SHB 2081).

Science takes center stage at research conference

Governor reappoints Brad Ack to lead Puget Sound Action Team

Scientists joined resource managers, policy makers, educators and students from both sides of the Canadian-American border at this year's **Puget Sound-Georgia Basin Research Conference**. Participants learned about emerging issues and shared the latest findings on the health of the region's waters.

The conference also featured political leaders from the region, including **Gov. Christine Gregoire**. In a luncheon speech on the opening day, the governor outlined her commitment to protect and restore Puget Sound and asked scientists for their pledge to make their work useful and accessible to decision-makers.

"We will rely on you to continue to help steer us down the right path," Gregoire said.

Gregoire also took the opportunity to announce her reappointment of **Brad Ack** to lead the Puget Sound Action Team partnership, a position he has held since 2003.

An evening panel session on the "Deployment of Science in the Puget Sound-Georgia Basin Region" brought together **Ron Sims**, King County executive; **Dr. Tracy Collier**, NOAA-Fisheries; U.S. Rep. **Jay Inslee**; **Mike Harcourt**, former premier of British Columbia; and **Brad Ack** for a lively conversation on how scientists can better inform policy makers.

During the three-day conference that took place in Seattle March 29-31, the 850 conference participants chose from 350 oral presentations and viewed 100 technical posters. Some highlights of new or emerging research from the conference included:

- **Flame retardants in humans and wildlife**—A panel of policy-makers and scientists discussed the state's Chemical Action Plan for flame retardants called polybrominated diphenyl ethers (PBDEs). Presentations included new information on the toxicity of PBDEs as they break down and the evidence of significant concentrations of PBDEs in fish and marine mammals in Puget Sound.
- **Elwha River restoration**—The Olympic National Park will oversee the removal of two dams from the Elwha River beginning in 2007. This will offer scientists a unique opportunity to measure before-and-after changes of the river and nearshore and the effects on salmon populations.
- **PCB contaminants**—Scientists have known that forage fish, salmon and other fish in Puget Sound carry polychlorinated biphenyls (PCBs) through the food web to the southern resident orcas that feed on them. Recent research discovered that Puget Sound chinook, which spend most of their life in the Sound, are among the most contaminated salmon on the west coast.
- **New tools for detecting aquatic nuisance species**—Scientists are developing tools that use genetic screening to determine the origin of some of the most common aquatic nuisance species in the ballast water of ships coming into Puget Sound.

► See Research conference, *back page*

Students shine at conference

Many undergraduate and graduate students attending the conference also gave presentations or prepared posters. For a list of **winning student entries**, visit <http://www.engr.washington.edu/epp/psgb/awards.html>.

Conference proceedings

For more details and to view papers from the Research Conference, look for the **Proceedings** later this summer on the conference Web site at <http://www.engr.washington.edu/epp/psgb/save.html>.

- Direct the Hood Canal Coordinating Council and the Puget Sound Action Team to manage a recovery program for Hood Canal (ESHB 2097).
- Help to control the spread of aquatic nuisance species, including increased inspections for watercraft (ESSB 5669).
- Adopt stringent automobile emission standards, which means less pollution will find its way into Puget Sound's waters (ESHB 1397).
- Require all future state-funded public buildings to meet green building standards (ESSB 5509).
- Direct local government tax incentive programs to give priority to accepting properties that maintain native vegetation buffers (ESSB 5620).
- Create two new accounts to acquire, enhance or restore riparian habitat and farmlands (ESSB 5396).
- Expand the dairy nutrient program to include other confined animal feeding operations that require a federal Clean Water Act permit (SSB 5602).





PUGET SOUND ACTION TEAM

(360) 725-5444
(800) 54-SOUND
www.psat.wa.gov

The Puget Sound Action Team is the state's partnership for Puget Sound. The Action Team Partnership defines, coordinates and puts into action the state's environmental and sustainability agenda for the Sound. Representatives from the following groups serve on the Action Team:

Local Government

City of Burien, *representing Puget Sound cities*

Whatcom County, *representing Puget Sound counties*

Washington State Government,

directors of the following agencies

Community, Trade and Economic Development

Conservation Commission

Department of Agriculture

Department of Ecology

Department of Fish and Wildlife

Department of Health

Department of Natural Resources

Department of Transportation

Interagency Committee for

Outdoor Recreation

Parks and Recreation Commission

Tribal Government

Tulalip Tribes, *representing Puget Sound Tribes*

Federal Government (Ex-officio)

NOAA Fisheries

U.S. Environmental Protection Agency

U.S. Fish & Wildlife Service

Chair: Director of Puget Sound Action Team

The **Puget Sound Council** includes representatives from business, agriculture, the shellfish industry, environmental organizations, local and tribal governments and the legislature, and it provides advice and guidance to help steer the Action Team.



PUGET SOUND ACTION TEAM
P.O. Box 40900
Olympia, WA 98504-0900

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Research conference, continued from page 3

- **Hood Canal**—Several sessions addressed the low dissolved oxygen condition. Presentations on new technologies included a strategy to aerate the canal with oxygen. Another presentation used scientific modeling tools to predict changes in the conditions of the canal.
- **Traditional ecological knowledge**—In his opening-day address, **Terry Williams**, executive

director of Fisheries and Natural Resources with the Tulalip Tribes, encouraged participants to combine traditional knowledge with science. A session devoted to this topic provided further insights into weaving knowledge from indigenous culture into science to improve resource management.



Sound Waves

The Puget Sound Action Team publishes **Sound Waves** quarterly.

Editor: Toni Weyman Droscher
(360) 725-5453 • tdroscher@psat.wa.gov

Distribution: Gigi Williams
(360) 725-5454 • gwilliams@psat.wa.gov



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